



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,994	11/21/2003	Takeshi Hosokawa	81752.0148	1498
26021	7590	10/03/2005	EXAMINER	
HOGAN & HARTSON L.L.P. 500 S. GRAND AVENUE SUITE 1900 LOS ANGELES, CA 90071-2611			GARCIA JR, RENE	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/719,994

Applicant(s)

HOSOKAWA ET AL.

Examiner

Rene Garcia, Jr.

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 21 November 2003.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Fig. 6a: unlabeled rectangular box(es) shown in the drawings should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-13 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (US 5,131,767) in view of Shibata et al. (US PG PUB 2004/0197127).

Yamada et al. disclose the following claimed limitations:

*regarding claims 1, 8, 9 and 17, printing apparatus (col. 1, lines 17-21) and method for printing a print image by each dot line onto a paper by driving a plurality of heating elements/**heating resistors**/ (col. 13, line 24) of a print head/**thermal head, 8c**/ (fig. 21), the printing apparatus comprising:

*line inspecting means for inspecting blank lines and a number of consecutive blank lines in the print image made up of a mixture of print lines which are the dot lines including the dots to be printed and blank lines which are the dot lines including no dots to be printed (fig. 21, ref. 5c & 6c; col. 13, lines 14-17)

*applied energy adjusting means/**pulse generation means, 4c**/ (col. 13, line 26) for adjusting energy applied to the print head in printing a print line which follows the consecutive blank lines, the adjusting being made based on the number of the consecutive blank lines (fig. 21; col. 15, lines 54-64)

*regarding claims 2, 9 and 17, dot line reading means/**1c**/ (fig. 21) for reading out the print image by each dot line while printing

*wherein the line inspecting means/**5c**/ includes:

*line determining means for determining whether the read-out dot line is the blank line or the print line (col. 15, line 27)

*means for detecting the number of consecutive blank lines up to a point when the read-out dot line is determined to be the blank line (col. 34, lines 27-41)

*wherein the applied energy adjusting means adjusts the applied energy based on the number of the consecutive blank lines that are detected at a point of time when the read-out dot line is determined to be the print line (col. 15, lines 54-64)

*regarding claim 3, applied energy adjusting means increases a value of the applied energy when the number of the consecutive blank lines is above a previously set number of the blank lines (fig. 21, ref. 7c [white line decision means]; col. 13, lines 20-23)

*regarding claim 4, applied energy adjusting means has means for initializing the number of consecutive blank lines at a time of starting the printing of the print image, into a value above the set number of the blank lines or a value close thereto (col. 15, lines 39-41)

*regarding claim 5, line inspecting means further includes means for detecting the number of the consecutive print lines up to the read-out print line when the read-out dot line is determined to be the print line and when the number of the consecutive blank lines detected up to that point of time is above the set number of the blank lines (col. 15, lines 36-41)

*wherein the applied energy adjusting means resets the value of the increased applied energy at a stage where the number of the consecutive print lines reaches a previously set number of the print lines (col. 15, lines 54-64 & col. 12, lines 54-66)

*regarding claims 6 and 13, adjustment of the applied energy is carried out by adjusting at least one of a pulse width of a strobe pulse/**heating pulse**/, an applied voltage and a limiting value of an applied current, which are applied to the print head (col. 16, lines 19-22) (claim 13: strobe width/**heating pulse**/)

*regarding claims 7 and 16, adjustment of the applied energy is carried out by multiplying a value serving as a reference by a predetermined coefficient (col. 15, lines 64-64 & col. 12, lines 54-66)

*further regarding claims 9 and 17, dot line analyzing means/**white line detection means** & **white line count means, 5c & 6c**/ (fig. 21; abstract – line is created by dots) , whereby each of the dot lines is analyzed to be the print line or the blank line, thereby obtaining a line analysis result (col. 13, lines 14-17)

*means for detecting, based on the line analysis result, a duration of the consecutive blank lines when printing is not consecutively performed while the paper is moved, due to the consecutive blank lines on the paper in a longitudinal direction thereof (col. 34, lines 27-41)

*applied energy adjusting means for adjusting the energy applied to the print head in printing each of the print lines, based on the duration of the consecutive blank lines and the number of the consecutive print lines from the line analysis result (col. 15, lines 54-64)

*regarding claim 10, applied energy adjusting means has applied energy increasing means for increasing the value of the applied energy when printing the print line after the

Art Unit: 2853

duration of the consecutive blank lines reaches a value above a set duration of the consecutive blank lines (fig. 21, ref. 7c [white line decision means]; col. 13, lines 20-23)

*regarding claim 11, means for detecting the duration of consecutive blank lines has means for initializing an initial value of the duration of the consecutive blank lines to a value above a predetermined value, when the printing of the print image is started (col. 15, lines 39-41)

*regarding claim 12, applied energy adjusting means has applied energy reset means which resets the value of the increased applied energy to an original value in case where more than the set duration time of the blank lines is elapsed and in case the print line is printed after more than the set number of the consecutive print lines lasted (col. 15, lines 54-64 & col. 12, lines 54-66)

*regarding claims 18, 19 and 20, program for performing a function and method of each of the means of the printing apparatus according to claim 1 or 9, said program being arranged to be capable of being implemented by a programmable printing apparatus (with respect to claims 1 and 9, signals are implemented for counting and execution functions therefore a program [firmware based or software] is used to create and control the signals)

*regarding claim 21, program for performing a function of each of the means of the tape printing apparatus according to claim 8 or 17, said program being arranged to be capable of being implemented by a programmable tape printing apparatus (with respect to claims 8 and 17,

Art Unit: 2853

signals are implemented for counting and execution functions therefore a program [firmware based or software] is used to create and control the signals)

*further more Yamada et al. discloses various kinds of printing means such as printers, copying machines and facsimile sets. (including tape printing means; col. 1, lines 17-21)

Yamada et al. does not disclose the following claimed limitations:

*tape apparatus utilizing tape

*regarding claims 1, 8, 9 and 17, moving the tape in a longitudinal direction thereof relative to the print head, the heating elements being aligned corresponding to the dot lines of the print image where dots are arrayed in a width direction of the tape

*regarding claims 20 and 21, storage medium having stored therein a program

Shibata et al. disclose the following:

*tape apparatus utilizing tape (abstract and paragraph 0002) for the purposes of performing line printing on an unwound tape using dot patterns

*regarding claims 1, 8, 9 and 17, moving the tape in a longitudinal direction thereof relative to the print head, the heating elements being aligned corresponding to the dot lines of the print image where dots are arrayed in a width direction of the tape (fig. 2; paragraph 0044) for the purpose of feeding the tape to be printed on.

*regarding claims 20 and 21, storage medium/**ROM, 64/** having stored therein a program (fig. 5; paragraph 0052) for the purpose of operating the tape printer.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a tape apparatus utilizing tape; moving the tape in a longitudinal direction thereof relative to the print head, the heating elements being aligned corresponding to the dot lines of the print image where dots are arrayed in a width direction of the tape; and storage medium having stored therein a program as taught by Shibata et al. into Yamada et al. for the purposes of performing line printing on an unwound tape using dot patterns; feeding the tape to be printed on; and operating the tape printer.

4. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (US 5,131,767) as modified by Shibata et al. (US PG PUB 2004/0197127) in view of Woodman et al (US PG PUB 2004/0159252).

Yamada et al. as modified by Shibata et al. disclose the claimed limitations except for the following:

*regarding claim 14, adjustment of the applied energy is carried out by adjusting a voltage that is applied to the print head

*regarding claim 15, adjustment of the applied energy is carried out by adjusting a limit value of a current applied to the print head

Woodman et al. disclose the following:

*regarding claim 14, adjustment of the applied energy is carried out by adjusting a voltage that is applied to the print head (paragraph 0031)

Art Unit: 2853

*regarding claim 15, adjustment of the applied energy is carried out by adjusting a limit value of a current applied to the print head (paragraph 0031; resistance is constant therefore adjusting the voltage also adjust the current [ohm laws])

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize an adjustment of the applied energy is carried out by adjusting a voltage that is applied to the print head; and an adjustment of the applied energy is carried out by adjusting a limit value of a current applied to the print head as taught by Woodman et al. into Yamada et al. as modified by Shibata et al. for the purpose of controlling generated energy.

Conclusion

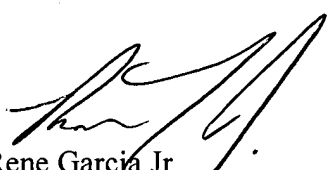
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hanabusa et al. (US 6,824,239) and Lapstun (US 6,512,596) both disclose white line /blank line/ detection and operation means for an image forming apparatus. Hachinoda (US 6,738,085) disclose white line detection and controlling of heaters of a thermal head.


Art Unit: 2853

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rene Garcia Jr
22 September 2005

 9/05
K. FEGGINS
PRIMARY EXAMINER

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.